LISTING OF CLAIMS:

Claims 1 – 6 (Canceled).

7. (Previously Presented) An antenna configuration for a radar device, comprising:

a plurality of transmission antennas over which an electric wave is transmitted to a target, the plurality of transmission antennas being evenly spaced from one another by a first predetermined interval (D);

a plurality of reception antennas over which the transmitted wave is received when reflected from a target, the plurality of reception antennas being evenly spaced from one another by a second predetermined interval (d); and

a plurality of channels each formed by a combination of one of the plurality of transmission antennas and one of the plurality of reception antennas, the plurality of channels being arranged into channel groups comprising channels using a same one of the plurality of transmission antennas, wherein

each of the channel groups includes at least one channel having a path length equal to the path length of at least another channel in another channel group using an adjacent transmission antenna, and

a number of channels varied in path length by a fixed distance over all the plurality of channels is larger than a number of the plurality of reception antennas.

8. (Previously Presented) The antenna configuration of claim 7, wherein:

the number of the plurality of transmission antennas is equal to an integer m greater than or equal to two;

the number of the plurality of reception antennas is equal to an integer n greater than or equal to two;

the second predetermined interval between the transmission antennas (D) is equal to (d) x k, $2 \leq k \leq n-1$, where n and k are integers;

each of the plurality of channel groups using adjacent transmission antennas includes (n-k) channels, each of which has the same path length as any one of the channels of the other channel group; and

the number of channels varied in path length by a fixed distance over all the plurality of channels is equal to [(m-1) x k +n].

9. (Previously Presented) The antenna configuration of claim 7, wherein each of the channel groups includes the at least one channel having a path length equal to the path length of the at least another channel in another channel group using an adjacent transmission antenna to enable calculation of an error correction value based on a time difference between channel measuring cycles.

10. (Currently Amended) A radar device comprising:

a plurality of transmission antennas over which an electric wave is transmitted to a target, the plurality of transmission antennas being evenly spaced from one another by a predetermined interval (D);

a plurality of reception antennas over which the electric wave that is reflected from the target is received, the plurality of reception antennas being evenly spaced from one another by a second predetermined interval (d), wherein

a plurality of channels formed by the plurality of transmission antennas and the plurality of reception antennas, each of [[a]] the plurality of channels [[is]] being formed by a combination of one of the plurality of transmission antennas and one of the plurality of reception antennas, the plurality of channels being arranged into channel groups including channels using a same one of the plurality of transmission antennas,

each of the channel groups includes at least one channel having a path length equal to a path length of at least another channel in another channel group using an adjacent transmission antenna, and

a number of channels varied in path length by a fixed distance over all the plurality of channels is larger than a number of the plurality of reception antennas;

a transceiver for transmitting and receiving the electric wave over one of the plurality of channels, and for generating a beat signal by mixing the transmitted and reflected electric wave;

a switching control device for successively switching a transmission antenna to be used to transmit the electric wave every predetermined measuring cycle, and for successively switching a reception antenna used to receive the reflected electric wave every predetermined channel switching interval, whereby a multiplexed signal achieved by time-divisionally

multiplexing the beat signals of the channels of the channel group using the same transmission antenna is supplied from the transceiver in the same measuring cycle; and

a signal processing device for determining the direction to the target on the basis of data achieved by sampling the multiplexed signal supplied from the transceiver, wherein the signal processing device includes correcting means for detecting an error occurring between the channel groups different in measuring cycle based upon data from channels equal to each other in path length, and correcting the data of the respective channels so that the error is offset.

11. (Previously Presented) The radar device according to claim 10, wherein the error to be corrected by the correcting means includes at least phase.

12. (Previously Presented) The radar device according to claim 11, wherein the transceiver is for transmitting and receiving an electric wave whose frequency is modulated to vary as a triangular waveform with respect to time, and the switching control device includes modulation inclination varying means for varying an inclination of the frequency modulation by varying at least one of the number of reception antennas under switching control and the channel switching interval.

13. (Previously Presented) The radar device according to claim 10, wherein the transceiver is for transmitting and receiving the electric wave having a frequency that is modulated to vary as a triangular waveform with respect to time, and the switching control device includes modulation inclination varying means for varying the inclination of the frequency modulation by varying at least one of the number of reception antennas under switching control and the channel switching interval.